

Amendment Dated: August 18, 2008
Response to Official Action Dated: April 16, 2008
Application Serial No. 10/572,722

REMARKS

Reconsideration of this application is respectfully requested. Applicants believe that consideration of this amendment is proper because they have attempted to comply with every requirement expressly set forth in the previous Office Action dated April 16, 2008 (Paper No. 20080408) and believe the application is now in condition for allowance.

Applicant has replaced the claims with a new claim set. Every attempt has been made to discuss claims similar to those of the Office Action. Since the claims are not identical, some differences in the claims will exist.

The claims are subject to an Election of Species Requirement. Applicant respectfully elects the Group I Invention to claims 30-41 without traverse.

The drawings stand objected to for lack of clarity.

It is stated that it is unclear how the cable routing means is configured to form a tortuous path and how the cables extend from the ground through the path and attach to the rail. Forming of a tortuous path is not specifically shown in the drawings. However, the Examiner's attention is respectfully drawn to the paragraph beginning on page 14, line 25 of the specification. Here forming the cables into a "Z" or an "S" shape is discussed. The cables attach to the rail at 11a with bracket 13 shown in Fig. 2B.

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New Fig. 1c shows a detail of the cable routing means 2 which enlarges this feature of Fig. 1a. This feature changes the orientation of the cables from the end 10 attached to the soil anchor assembly to the first upstanding controlled release terminal. No new matter is believed to be added by this drawing.

As stated in the Brief Description of the Drawings, Figures 6a and 6b are plan views of the cable routing means of Figure 5, one in the non-cable-gripping orientation and one in the cable-gripping orientation.

The impact head is defined on page 1, lines 17-20. A skilled reader would understand that the cable routing means is a portion of the terminal end arrangement of a guardrail, i.e. the cable routing means forms part of the impact head of the guardrail.

New drawings 1a, 2a, 3 and 4 show the impact head referenced by numeral 100. This is called out in the specification on page 16, line 4. Only the numeral is references. No new matter is believed to be introduced by these changes.

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Claims 30-37 stand rejected under 35 U.S.C. § 112, second paragraph. In claims 30-37, the Examiner contends that it is unclear what “configured to form” is intended to set forth.

The Examiner also objects to the term “tortuous” as being unclear. Applicant respectfully traverses this rejection. Paragraphs from page 3, line 12 through page 4, line 2 describe what is meant by a tortuous path. Specifically, the first of these paragraphs states, in part, “[t]he tortuous path may be any path that provides sufficient friction to slow down the movement of the impact head during the vehicle impact.” This statement provides an objective measurement by which a cable path may be compared to determine if it is tortuous. One skilled in the art would understand that a frictional resistance to movement of the cable is one way of dissipating energy from an impact. Specific examples of the tortuous path are provided, such an S or Z shaped turn, turns greater than 90°, at least one 180° turn. The nature of the tortuous path is summarized on page 4, lines 3-6 as follows:

“In some embodiments the cable routing means may be adapted so that in use and during a collision or impact with the impact head, the cable is forced through the cable routing means, where resistance to

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create movement provided by the tortuous cable path substantially facilitates impact energy dissipation.”

Also, the Office Action states that in claims 30, 38 and 42 it is unclear what structure is covered by the term “impact head”. As stated in the last sentence of paragraph 4, the “impact head” includes the terminal end of the guardrail which is first impacted by an errant vehicle. A skilled reader would understand that the cable routing means is a portion of the terminal end arrangement of a guardrail, forming part of the impact head of the guardrail.

Although no formal rejection has been raised, the Examiner asks how the bar member cooperates with the impact head and the cables. The Examiner is referred to Figs. 6A and 6B, and the accompanying text at the two paragraphs beginning at page 15, line 25. The bar member 25 is adapted to distort the cable when the bar member is rotated to form the tortuous path.

Claim 17 also stands rejected under 35 U.S.C. § 112, second paragraph, for omitting essential structural elements of the claims. It is contended that the omitted relationship is how the frangible fastener is associated with the impact head and cable routing means. This claim has been canceled, rendering this rejection moot.

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Claims 30-37 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Rambaud in U.S. Patent No. 4,730,810. The Office Action contends that Rambaud discloses an impact head configured to form a tortuous path through which a cable can be threaded. Applicant respectfully traverses this rejection.

Rambaud teaches a protective barrier for catching falling stones where the barrier includes a shock absorbing means. Although the shock absorbing means includes a tortuous path for a cable, it is a slack end of the cable. Energy is absorbed through the effort of pulling a load created by the slack rope 34a through rotating sheaves. The fact that the sheaves rotate severely reduces the friction. In contrast, amended claim 1 features a tortuous path that *itself* provides sufficient frictional resistance to absorb the impact of an impact. This feature is not taught by Rambaud.

All claims dependant on claim 30 are novel over Rambaud at least for the reason above. Arguments asserted above with respect to claim 30 are reasserted here with respect to all dependent claims.

Further, Applicant avers that Rambaud fails to show or suggest the use of two or more cable entry ports in Fig. 3A. Rambaud teaches an entry and an exit. Slack is taken from the cable end 34A, not vice versa. Even if the device is capable of use in the opposite direction, it still has only one entry and exit,

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although the roles are reversed. Applicant respectfully suggests that the rejection should be withdrawn and the claim be allowed.

Rambaud fails to suggest that resistance to cable movement provided by the tortuous cable path limits movement of the impact head as featured in claim 33. The shock-absorbing means of Rambaud is held in position by the coupling strap 350 that is anchored into the ground. It cannot move due to movement of the cable and thus cannot teach this feature. Applicant respectfully suggests that the rejection should be withdrawn and the claim be allowed.

As to claim 36, Rambaud fails to suggest that one of the cables is anchored to the ground. As shown in Fig. 2A of the reference, the cable that is anchored to the ground does not pass through the impact head. The cable that goes through the tortuous path forms a loop and is not anchored to the ground. The text of Rambaud states only that the cables are connected to the anchorages. See. Col 4, lines 31-36. Applicant respectfully suggests that the rejection should be withdrawn and the claim be allowed.

Referring to claim 44, Rambaud fails to disclose slowing down movement of the impact head. Arguments asserted above with respect to claim 4 are reasserted here. Applicant respectfully suggests that the rejection should be withdrawn and the claim be allowed.

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Rambaud fails to reveal tensioning of anchorages 37a and 37b in any way. The anchorages are mentioned only in col. 4, lines 35-36, as being connected to cable 34. No adjustment of 37a and 37b are disclosed, be it adjustment of tension or any other feature. Applicant respectfully suggests that the rejection should be withdrawn and the claim be allowed.

Claims 38-40 and 42 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bronstad in U.S. Patent Application Publication No. 2005/0077508. Bronstad fails to reveal a tortuous path formed for the cables. Applicant respectfully traverses this rejection.

Bronstad discloses a crash cushion having posts, rails and cables. The Examiner has interprets the rails 20 as being both the rails and the impact head. This interpretation is inconsistent with Applicant's claims and specification. Applicant respectfully suggests that the rejection should be withdrawn and the claims be allowed.

The impact head of Applicant's claims is the central feature of the invention, yet the Examiner has completely discounted its presence. Merely finding some of the functions of the impact head, such as threading of the cable through the rail, does not make it equivalent to the impact head. Bronstad teaches the use of cable anchor brackets 54a and 54b. There is no teaching or suggestion that the cable anchor brackets form a tortuous path. In the three paragraphs

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beginning on page 7, line 9, and Fig. 1 do not disclose that the cable anchor brackets form a tortuous path. Fig. 2 has a box labeled 54a, but it is positioned between one row of slots 36 and another row of slots. There is no teaching or suggestion that the slots 36 or any other means of forming a tortuous path forms any part of anchor brackets 54.

Claim 38 specifies that the cable routing means to form a tortuous path is at one end of the rails. Yet Bronstad shows the cable anchor brackets in the middle of a section of the rail. This reference would not suggest to an artisan positioning of a cable routing means at one end of the rails.

All claims dependent on claim 38 are also patentable since an independent claim includes all features of the independent claim from which it depends. Arguments asserted above with respect to claim 38 are reasserted with respect to every claim that depends from it.

Original claims 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rambaud and Bronstad respectively. These claims have been canceled, rendering this rejection moot. None of the replacement claims has the same scope of these claims.

By the above arguments and amendments, Applicant believes that they have complied with all requirements expressly set forth in the pending Office Action. Issuance of a Notice of Allowance on the remaining allowed claims is

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respectfully requested. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, he is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,
GREER, BURNS & CRAIN, LTD.

/carole a. mickelson/

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By:

Carole A. Mickelson
Reg. No. 30,778
Attorney for Applicants

300 S. Wacker Drive - Suite 2500
Chicago, Illinois 60606
Tel.: (312) 360-0080
Fax: (312) 360-9315
Customer No.: 24978